



Internationale Weiterbildung
und Entwicklung gGmbH

Capacity Building
International, Germany



The Free Software and Open Source
Foundation for Africa



African Virtual Open
Initiatives and Resources

TERMS OF REFERENCE

Mentored Internship Programme Network Manager

Promoting Innovative local FOSS Applications for
Social and Economic Development

ict@innovation and AVOIR

26.06.2010

TERMS OF REFERENCE

ict@innovation Programme: Mentored Internship Programme Innovative local FOSS Applications for social and economic development

1. ict@innovation Programme – Overview

ict@innovation is a capacity development programme programme enabling small and medium ICT enterprises to make a business with Free and Open Source Software (FOSS) in Africa. ict@innovation aims to encourage the growth of African ICT industries, particularly in Southern and East Africa, through three main action lines:

1. Spreading FOSS business models for enterprises in Africa

- Capturing profitable business models for FOSS products, services and training, adapted to the African context
- Disseminating such model business approaches and related skills in the African ICT sector, Training on African FOSS Business Models for ICT-based SME

2. Fostering quality management for FOSS services through certification

- Promotion of internationally accepted quality standards in the field of FOSS
- Enlargement of trainings for certification and accreditation of FOSS training courses, tests and materials

3. Supporting innovative local FOSS Applications for social and economic development

- Mentored Internship Programme “Learning by Coding”: promoting the application of technical skills in locally relevant software projects
- Development and dissemination of FOSS products adapted to the needs of the SME and the public sector

In addition the programme supports regional networking and international exchange, community Building through trainings and web portal and the strengthening regional organisations and assisting international exchange. Further information on activities that have been conducted since the start of the programme in 2008 can be accessed under: <http://www.ict-innovation.fossfa.net/activities>

Funding partners are the German Ministry Federal Ministry for Economic Cooperation and Development (BMZ) and the Open Society Initiative for Southern Africa (OSISA). The programme focuses on Free and Open Source Software (FOSS) as a key technology to drive innovation, add local value and create sustainable and affordable ICT-solutions. ict@innovation aims to enhance regional networking and to strengthen The ict@innovation programme and AVOIR network are advertising the position of a Network Manager for a joint mentored internship programme. These Terms of References include:

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Attached to these TOR please find the following documents which provide important additional information relevant to application for this position.

- Timeline
- Implementation Plan

consulting capacities of regional and national ICT associations and training institutions as well as of other relevant change agents.

Project Time Frame: March 2008 – December 2012 (expected)

ict@innovation Programme Target Countries: Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, Tanzania, Uganda, Zambia

*The position being advertised is entitled Mentored Internship Network Manger. The person being hired will be responsible for the implementation of the activities under the **ict@innovation programme component 3: Innovative local FOSS Applications for social and economic development**. Following, a brief overview of the mentored internship programme is given as well as the detailed terms of reference and deliverables.*

2. Mentored Internship Programme – A Cooperation between InWEnt and AVOIR

Introducing the Mentored Internship Programme (MIP)

Software Engineering within Africa is a newly emerging area, with a relatively low density of software developers in comparison with the industrialized countries. However, the talent is there, but it needs nurturing and support through mentoring and participation in collaborative projects.

InWEnt through the *ict@innovation* (<http://www.ict-innovation.fossfa.net/>) programme aims to develop capacities in FOSS application development in different African countries, as one of the four pillars of *ict@innovation*. One initiative that is envisaged to achieve this objective (pillar C) is a mentored internship programme (MIP) in software development.

AVOIR is a network of university nodes, currently with 13 nodes across Africa. AVOIRs main product is the development platform Chisimba, which is incidentally being developed further outside of Africa, for instance in Afghanistan and the Philippines. As one of AVOIRs main aims is capacity building that aims to develop the skills of programmers to code for FOSS projects and contribute to the Chisimba platform, *ict@innovation* and AVOIR decided to partner and support each other's activities.

Therefore, *ict@innovation* and AVOIR wish to join efforts and host an internship programme to support programming skills development and strengthen capacities in SME, and contribute to business development with FOSS in African IT sectors. Another element of importance to *ict@innovation* is that locally relevant FOSS applications are being developed and adjusted and capacities for such innovative local solutions are developed.

During the workshop held 28th and 29th of April 2010 at the UWC in Cape Town, representatives of 9 AVOIR nodes convened to plan a joint mentored internship programme. A detailed implementation plan covering the results of this meeting is attached to these TOR.

Mentored Internship Programme – An Overview

These objectives and indicators were specified during the workshop at UWC together with the AVOIR Network:

Performance Objective: *ict@innovation* Pillar C

At least 50 FOSS developers and experts of IT-associations, training institutions as well as other relevant change agents are qualified in the development of innovative local FOSS solutions, which are relevant for small and medium-sized companies (SMEs) and the public sector. Thereby, the number of skilled FOSS-experts is increased by 50 and more African FOSS solutions are developed which are of high quality and address local needs.

Key issues	Indicators
1. Are qualifications of FOSS experts improved?	1. Increase in the number of FOSS developers/experts with upgraded FOSS knowledge and skills by up to 50 (to be measured by assessments by interns and mentors on learning outcomes and by amount of contribution of intern to the respective FOSS coding community, to the website, and to code repositories, documentation of code and other community-driven action)
2. Do FOSS experts have improved job opportunities after the	Percentage of women: equal participation of female interns should

<p>training?</p> <p>3. Have there been more FOSS solutions developed? Could they be marketed?</p>	<p><i>be encouraged</i></p> <p><i>2a) Positive assessment of employability of intern by participants and/or prospective employers after internship.</i></p> <p><i>2b) Increase the total number of employed FOSS experts by 25 (Goal is to encourage developers to either continue working at the university or at local FOSS companies)</i></p> <p><i>3. At least 20 innovations/ adaptation of FOSS solutions will have been developed as a result of the MIP.</i></p>
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(a) Goal of the MIP is to qualify FOSS developers and experts of IT-associations, training institutions as well as other relevant change agents in the development of innovative local FOSS solutions. Thereby, the programming skills of FOSS-experts and developers are improved, more African developers are motivated and enabled to contribute to local and international FOSS projects and more African FOSS solutions are developed which are of high-quality and address local needs.

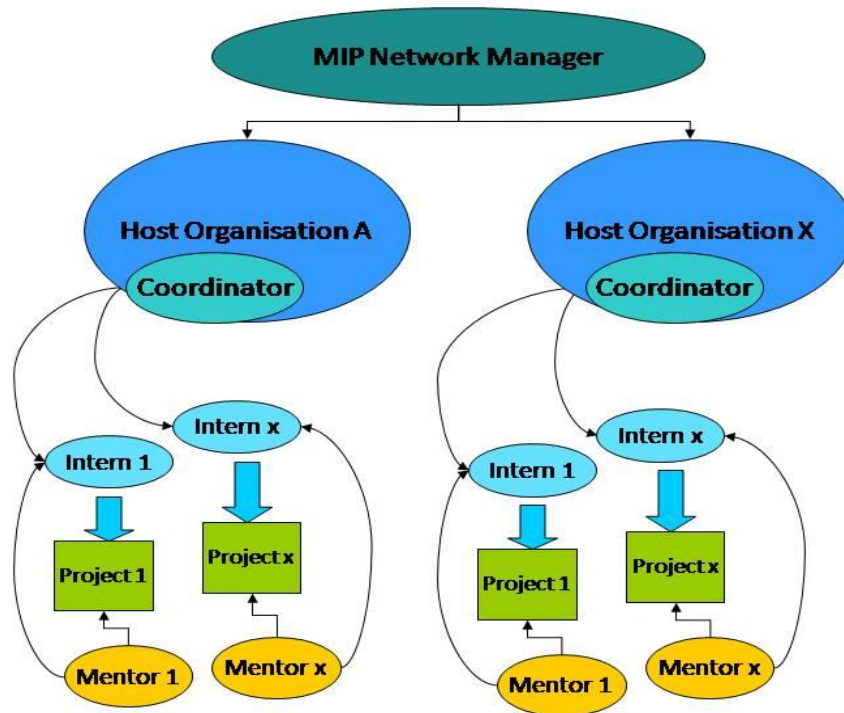
(b) Target groups are developers, who are employees of IT-SME in the partner countries as well as qualified (post-) graduate students at the AVOIR nodes. *ict@innovation*, can support participants coming from the following countries: Ethiopia, Kenya, Malawi, Mozambique, Namibia, Rwanda, South Africa, Tanzania, Uganda, Zambia in 2010. . It is envisaged to enlarge *ict@innovation* to include West African countries in the near future but for 2010, the western and southern African countries listed here will be the main focus of the programme.

(c) Main activities will be planning, implementation and monitoring of a joint mentored internship programme encompassing at least 3 mentored internships per participating node in the first year 4 as well as the development of locally relevant software applications during the internship programme. The main activity is the programming phase, where the interns develop or customize relevant FOSS software applications with help from their mentors. In addition to the programming and training, a long term business approach and alumni platform for the continuation of the activities beyond the programme frame can be designed.

(d) Partnership composition – AVOIR nodes are partnering with *ict@innovation* for the MIP. In addition, other interested parties such as local IT SMEs, as well as international partners who can strategically contribute to the aim of the action can partner with the network.

(e) Duration of the initiative: Initial planned project time for the Mentored Internship programme is three years (2010 -2012). Timeframe for the internship should be 6 months. The first internships are to commence in October 2010. After this initial round of interns, a short evaluation will take place and the network will decide on a starting date for the second round of interns. (Project funds for the years 2011 and 2012 from *ict@innovation* side are subject to approval by the German Ministry BMZ.)

Mentored Internship Programme Management Structure



Implementation Team:

MIP Network Manager (to be appointed)

Host Organisation Coordinators (representing the participating AVOIR nodes)

ICT@INNOVATION AFRICA COORDINATOR (George Nyambuya, FOSSFA and InWEnt, SA)

ICT@INNOVATION InWEnt Bonn (Petra Hagemann)

MIP- Supervision Team:

AVOIR SUPERVISION Enver Ravat / AVOIR CEO / business manager

ICT@INNOVATION InWEnt Bonn (Balthas Seibold)

ICT@INNOVATION FOSSFA project Manager (Milton Aineruhanga)

Technical advisory board for implementation team (volunteer geeks advising on different FOSS coding aspects - to be appointed)

Communication – All members of both the Implementation team and the Supervising team should be part of the MIP-Steering mailing list to ensure transparency in planning and implementation.

InWEnt is responsible for overall steering, monitoring the achievement of the project goals as well as ensuring that the mentored internship programme is in compliance with German development cooperation guidelines. In the context of programme implementation, InWEnt will also provide (co-)funding for capacity-building related action of the MIP as specified in the budget on behalf of the main funder of ict@innovation, the German Federal Ministry for Economic Cooperation and Development (BMZ).

AVOIR – the AVOIR network actively manages and should directly benefit from the MIP. As a network AVOIR will contribute its structures, contacts and expertise, and lead implementation. The AVOIR nodes participating in the MIP have committed to the aims of the programme and their realisation. Therefore, AVOIR will be responsible for overall steering as well as ensuring that the mentored internship programme reaches the project goals. The AVOIR business CEO will play an important role in ensuring close alignment of business related actions of AVOIR and the MIP.

3. Detailed Terms of Reference

General Information

Position Title : Mentored Internship Programme: Network Manager

Duration: The position will initially cover the duration of the first phase of the MIP from July 2010 to March 2011, however depending on the overall extension of the ict@innovation programme the position is likely to be extended to a second phase up to the end of 2012.

Scope: The MIP Network Managers position will be of great importance to the overall success of the ict@innovation programme and will carry much responsibility. Many managerial tasks will rely on the MIP network manager. However, it should be possible to fulfil this job on a part time basis.

General Description and Overview of Tasks: In order to achieve the performance objective, of *qualifying software developers and enabling the creation of innovative local FOSS solutions*, a mentored internship programme in software development will be implemented, matching persons interested in developing their software skills with suitable mentors guiding them through the coding of specific software projects relevant to local African contexts. This programme will include Universities and local IT SMEs as well as international partners. For the first phase of the MIP from October 2010 till March 2011 nine AVOIR nodes will be participating as host organisations. The TOR for the position of manager for this internship programme (MIP Network Manager) includes the following main components:

- Preparation of internship programme:
 - Supporting Host Organisation Coordinators in selecting and matching interns, projects and mentors as well as networking with the local IT industries
 - Creating an overview of local FOSS Industries and projects which can including mapping these and adding to the FOSSFA directory of FOSS actors in Africa
 - Compiling possible additional activities for interns and creating linkages between other AVOIR and ict@innovation activities
 - Development of an educational concept and internship curricula
- Implementation of intership programme:
 - Supervision of Intern and Mentor cooperation and monitoring of activities,
 - Creating linkages with international partners and similar schemes,
 - Actively contributing to the AVOIR community through mailing list activities, writing news stories on the Chisimba and AVOIR websites and marketing of programme
- Evaluation and follow-up to internship programme:
 - Designing an internship alumni programme,
 - Supporting further exchange via an online community of practice of FOSS developers

The MIP Network Manager will ensure the goals of the MIP will be achieved and will play a central role in supporting FOSS development in Africa. He/she will design in detail and implement a mentored internship programme to build practical skills of FOSS developers in the ict@innovation programme target countries.

He/she will carry responsibility to act as a central contact person, create networking effects and synergies between the interns, mentors, host organisation and other ict@innovation programme components. This will also include creating a concept for networking with programme alumni. (The alumni are the interns who have completed the internship programme) Further he/she will ensure the educational quality of the programme through good planning, monitoring and quality management.

A) Intern and Mentor Recruitment, Supervision and Monitoring

It will be the MIP Network Managers job to guide and closely work with AVOIR host organisation coordinators in order to recruit as well as to develop and maintain relations with students/interns:

Develop and maintain Intern- Relations

- Work with AVOIR nodes in recruiting, selecting and supervising interns. The selection process of the interns will be made in close cooperation with the ict@innovation project management team and host organisation coordinators (see Annex C Implementation Plan for detailed information).
- Develop standard contracts for interns and mentors
- For the second round of the internship starting 2011, recruit and pre-select interns from SMEs, work on ideas with the host organisations on how to integrate interns in to the internship programme, online or on-site.
- Co-organising and actively participating in group meetings with interns and coordinators at selected AVOIR nodes
- The MIP Network Manager will support the nodes in hosting face-to-face meetings and an initial training at the beginning of the internship as well as in organising a face-to-face meeting with all interns at each node at the end of the internship for evaluation purposes. If possible, (depending on project funds and meeting opportunities) face-to-face meetings should be organised for all interns at the beginning and end of the active internship phase or at a suitable event such as Idlelo 5 in 2012. These meetings should be planned in cooperation with the ict@innovation programme management team.
- Organize regular online intern exchange

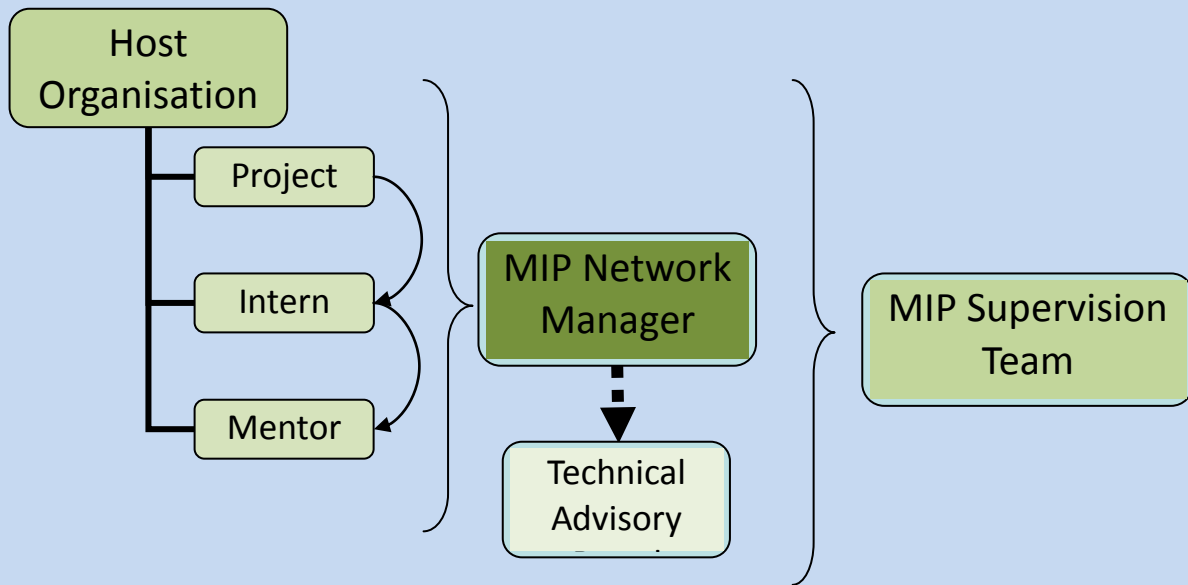
Develop and maintain Mentor -Relations

- In support of the host organisations, reach out to IT and other companies to recruit new mentors and forge new partnerships.
- Recruit and assess new mentors in coordination with the host organisation coordinators and the ict@innovation project management team and assist the host organisation coordinators in matching the right mentor to the right student.
- Organising a get-together and initial training of Chisimba-mentors at the UWC
- Contribute to and manage mailing list discussion for mentors and interns

Identifying and Map Suitable FOSS Projects

- The MIP Network Manager, in collaboration with host organisation coordinators, mentors and interns, will participate in identifying software development projects for interns to work on, that are relevant for the local market and local needs. Interns will be encouraged to suggest their own projects/own applications they would like to improve or develop. Otherwise projects can come from the AVOIR nodes themselves, or from business, civil society or government. Some of them will naturally be Chisimba based, some not, depending on project/client needs. This also involves seeking cooperation e.g. assisting interns to apply to Google Summer of Code and related competitions.
- In cooperation with the FOSSFA Council and the host organisations these projects and local FOSS companies should be listed and mapped, thus contributing to the creation of a pan-African FOSS directory currently being assembled by FOSSFA. The MIP Network Manager will cooperate with FOSSFA on this directory.

Overview of Selection Process:



FOSS Projects: In the first phase of the MIP, potential projects will be identified within the host organisations themselves and through research and contacts to the local IT industry. Room for interns suggesting specific projects will be given.

Interns: Accordingly, each host organisation will hold a call at their institution for interns

Mentors: Host organisations will also approach mentors within their institution and amongst the local IT industry.

A list of FOSS projects, interns and mentors will be submitted by each host organisation to the MIP Network manager. The host organisation can seek assistance from the MIP Network Manager for the assembly of this list if needed and especially for the matchmaking process.

The MIP Network Manager can support this process by helping host organisations to identify further mentors and projects if needed as well as keeping a track of interested potential interns and future host organisations. In particular, the MIP Network Manager will support finding suitable mentors for non-Chisimba based projects.

It will be the MIP Network Managers job to review these selections and in particular to maintain oversight and document the projects. If a case arises, where there is no unanimous decision between the MIP Network Manager and the host organisation coordinators on which projects suits which interns and which mentors, the MIP network Manager could be supported by a technical advisory board for selection and decision making. (Members of this board should be jointly selected by the Implementation team and the MIP Supervision Team) In addition, it will be the MIP Network Managers job to oversee the selection of the sources of funding and coordinating this with the host coordinators. The MIP Network Manager will go on to present these selected lists of projects interns, and mentors to the Supervising team.

Deliverables	
September 2010	Standard Contracts for interns and mentors developed in coordination with AVOIR
September 2010	Matched lists of interns and mentors, list of funding sources of interns submitted
October 2010	At least 30 interns registered and matched with mentors. For each intern has a educational framework including main project and additional activities.
December 2010	Feedback from 30 interns and 10 mentors on progress and communication

B) Overall coordination activities

Maintaining an Overview of Activities and Programme Communication

The MIP Network Manager will be responsible for supervising the implementation of all programme component activities and coordinating with the ict@innovation programme management team and ict@innovation Steering Committee. The MIP Network Manager will partake in ict@innovation Steering Committee meetings when required. He/she will ensure regular communication and collaboration between all people involved in the implementation of the MIP (through virtual and face-to-face meetings, and other online communication media). This includes:

- Close collaboration with the host organisations and host organisation coordinators, including support in the starting phase of the internship programme for instance in organising meetings with the local IT Industry.
- Organising regular (online) meetings with the interns, mentors as well as the programme management team and by moderating and adding to the project mailing list and contributing to the AVOIR and Chisimba websites and mailing list as well as the ict@innovation website.
- Linking regular communication and collaboration activities with educational and alumni frameworks
- Sending short monthly progress reports to ict@innovation programme management team, AVOIR and FOSSFA
- Yearly overall reports on programme implementation, and achievements of goals

Partner Coordination

The MIP Network Manager will:

- Co-organise and actively participating in planning and review meetings with the implementing programme partners such as AVOIR and OpenSE.
- Act as main contact person and coordinator amongst the participating AVOIR nodes for planning, implementation, general questions and other management issues. If there are questions, problems, or issues which cannot be dealt with by the coordinators/mentors. In such cases the MIP Network Manager will support the host organisations in providing guidance to mentors as well as acting as a contact person and providing guidance to the interns.
- In coordination with programme partners, identify linkages with other activities and events and aim to create synergies with other partner activities as well as other ict@innovation activities, this can include connecting the mentored internship programme with the FOSS business trainings being held by ict@innovation. Such activities will be discussed and coordinated with the ict@innovation programme management team and partners.
- Work in close collaboration with the AVOIR business CEO once they have joined the AVOIR network and see how other AVOIR activities can be integrated into the mentored internship programme.
- The MIP Network Manager will work towards collaborating with other FOSS related internship programmes or similar training measures to create synergies.

Monitoring and Evaluation

- The MIP Network Manager will be responsible for supervising the implementation of all programme component activities. To do so effectively and to support reporting, the MIP Network Manager will design a results-based quality control system for intern evaluation and make sure system is used in close collaboration with the AVOIR node supervisors and network managers. Templates and methods based on InWEnt's Prime-Evaluation system will be supplied by the ict@innovation programme management team and partners.
- It is suggested that interns submit monthly progress reports on their projects. These should document progress and learning experiences and be published online for peer review. It will be the

MIP network managers responsibility to ensure these reports are being submitted and are available to the supervision team.

- The MIP Network Manager will also be responsible for writing references for the interns after the completion of a successful internship in coordination with the mentors and host organisation coordinators. To this end, a rapport between the MIP Network Manager and the mentors will be important, including an overall assessment of the interns work performance during the internship.
- The MIP Network Manager will be responsible for sending short monthly progress reports to ict@innovation programme management team, AVOIR and FOSSFA as well as mid-term reports and a final report on programme implementation, and achievements of goals at the middle and at the end of each internship phase.

Deliverables	
Ongoing 2010	Monthly and yearly progress reports
September 2010	Concept for linkages with other partner and ict@innovation activities and events
September 2010	Coordinated concept for monitoring and evaluation of internships
Monthly	Virtual meetings with Interns and checks of interns progress reports
March 2011	End report for first phase of MIP
March 2011	References written for all completed internships

C) Establish educational frameworks

At the commencement of the active phase of the internship and during the selection process of interns and mentors the MIP Network Manager will work in very close cooperation with the host organisations and their coordinators in order to put together educational frameworks for all the interns on a needs basis.

Apart from their one concrete project these educational frameworks can include:

- Other ict@innovation trainings
- Virtual seminars and courses, for instance in cooperation with other international partners
- On-site seminars at the hosting AVOIR nodes
- Work experiences at local IT companies
- In additions, the MIP Network Manager will look at possibilities to enhance the scope of internships to further disciplines relevant to AVOIR, such as business, project management or design. Ensuring that interns from different backgrounds learn from each other.

Further, the MIP Network Manager will develop a concept for an internship alumni programme. This can include ideas to employ the web portal, and/or physical meetings and get-togethers.

Deliverables	
November 2010	Develop alumni concept
October 2010	For each intern, have a clear overview of educational framework including main project and additional activities
November 2010	Organise business models training for interested and qualified interns

D) Online Networking and Further Outreach

- The MIP Network Manager is responsible for creating and motivating an online community of practice of FOSS developers using the ict@innovation online portal: <http://www.ict-innovation.fossfa.net/> and encouraging this community of practice to contribute to the website content. The web portal should also be used for the creation and maintenance of the intern alumni programme.
- He/she will use the ict@innovation Website and other relevant internet sites to advertise the programme, blogs on African FOSS development related topics.
- The MIP Network Manager will actively contribute to the AVOIR mailing list and website, the

interns' mailing list.

Deliverables	
March 2011	Regular communication with Interns via mailing or newsletter (Minimum one mailing per week and one newsletter per month)
March 2011	Blog posts as updated on programme activities (Minimum two posts per month)
March 2011	Online PR on internship programme through press release or posts on other sites (Minimum 3 posts during one internship phase)
March 2011	Mapped overview of local IT Industries and FOSS Projects

4. Requirements and Conditions

Job Requirements

The applicant must have:

- Experience with the creation and management of networks
- Knowledge of FOSS projects, Software Engineering and development of FOSS software
- Experience in managing interns and on the job training.
- Programme management experience, experience with collaborative projects
- In depth knowledge of and working experience with issues of FOSS in Africa
- Graduate or post-graduate level qualification, in either an IT, business or network management related field

Plus:

- A minimum of 3 years experience in project(s) of similar nature
- Participation in international academic or FOSS development projects

Additional qualifications should include:

- Creative, visionary and able to design solid structures, programmes and business plans
- Excellent inter-personal and general communication and networking skills
- Work experience in Africa
- Good organisation and timekeeping skills
- Able to work independently and in a team

Management Arrangements and Additional Information for Applicants

The ict@innovation programme management team will supply input and guidance to the MIP Network Manager, in particular during the starting phase of the mentored internship programme. A number of ideas have been gathered during the planning process 2009/2010 and a number of documents will be provided to the MIP Network Manager as input and starting points to the TOR listed above. Some of these inputs will include:

- Overview of possible FOSS projects and contact persons
- Information on participating AVOIR nodes
- Ideas for cooperation with other ict@innovation components and other partner activities
- Ideas for website use, alumni management and further outreach activities

The MIP Network Manager shall be hired by ict@innovation (FOSSFA and InWEnt) and AVOIR. S/he shall work under the auspices of AVOIR. Applicants based anywhere in Africa are welcome, however, a base in one of the partner countries or preferably even with one of the AVOIR nodes participating in the mentored internship programme will be preferred. Travel within the project region will be necessary.

This is an initial contract term starting September 2010 until June 30th, 2011. The renewal of the contract shall be pending on the overall project continuation and the satisfactory completion of the initial contract by the MIP Network Manager. There will be a probation period of 3 months in order to assess the suitability of the candidate for the position.

5. ict@innovation Programme Partners – Overview

ict@innovation is managed by a Programme Management Team responsible for the management of general affairs, daily programme business and overall coordination, and a Steering Committee which supervises the programme and is informed of the implementation progress through regular reporting and quarterly meetings.

ict@innovation: Main Programme Partners



FOSSFA - The Free Software and Open Source Foundation for Africa (FOSSFA)

FOSSFA partners with InWEnt to implement the ict@innovation programme. FOSSFA is the premier African FOSS organization. The vision of FOSSFA is to promote the use of FOSS and the FOSS model in African development, and the organization supports the integration of FOSS in national policies. FOSSFA also coordinates, promotes, and adds value to African FOSS initiatives, creativity, industry, expertise, efforts and activities at all levels. <http://www.fossfa.net>



InWEnt – Capacity Building International, Germany

InWEnt – Capacity Building International, Germany, is a non-profit organisation with worldwide operations dedicated to human resource development, advanced training, and dialogue. Our capacity building programmes are directed at experts and executives from politics, administration, the business community, and civil society. We are commissioned by the German federal government to assist with the implementation of the Millennium Development Goals of the United Nations. In addition, we provide the German business sector with support for public private partnership projects. Through exchange programmes, InWEnt also offers young people from Germany the opportunity to gain professional experience abroad. <http://www.inwent.org/index.php.en>

InWEnt's it@inwent programmes strengthen IT sectors in Africa and Asia, fosters key innovations in Information and Communication Technologies (ICTs) for economic development, and support its partners to use ICTs as enabling tools for poverty reduction. <http://www.it-inwent.org>

Partner of the Mentored Internship Programme



African Virtual Open Initiatives and Resources (AVOIR)

AVOIR is a project that seeks to unify software developers, educational specialists, health specialists, business specialists and others in Africa to build capacity to produce educational and other software while at the same time building software design, development, and support capacity in the higher education sector. AVOIR is a network of university nodes, currently with 13 nodes, as well as some incipient nodes that are beginning to become visible in various ways. AVOIR nodes are in development outside Africa as well, including in Afghanistan and the Philippines.